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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/053,463	01/17/2002	Laura Dickey	100200145-1	3691

7590 02/08/2008

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EXAMINER	
BUI, HANH THI MINH	

ART UNIT	PAPER NUMBER
2192	

MAIL DATE	DELIVERY MODE
02/08/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/053,463	DICKEY ET AL.	
	Examiner	Art Unit	
	Hanh T. Bui	2192	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 January 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 January 2002* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This is response to application filed on January 17th, 2002 in which claims 1 to 23 are presented for examination.

Status of Claims

2. Claims 1 to 23 are pending, of which claims 1, 9, 15 and 20 are in independent form.

Oath/Declaration

3. The Office acknowledges receipt of a properly signed oath/declaration filed on January 17th, 2002.

Priority

4. The priority date considered for this application is January 17th, 2002.

Drawings

5. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because

a. Reference character "110" has been used to designate both "base station" in Fig. 2 and "Other concentrated apps" in Fig. 3.

b. Reference characters "109 in FIG. 3" and "112 in Fig. 7" have both been used to designate "Virtual machine data store. "

c. Reference characters "110 in FIG. 3" and "111 in Fig. 7" have both been used to designate "Other concentrated apps".

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 20-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 20 recites the limitation "said target device" in lines 3-4. There is insufficient antecedent basis for this limitation in the claim.

Claims 21-23 are also rejected as being dependent on the rejected base claim 20.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 1-5, 8-13, 15-18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ross (US Patent 6,163,780 – hereinafter, Ross) in view of Henry (US 6,131,192 – hereinafter, Henry).

Regarding claim 1:

Ross discloses a system and method for receiving bytecode and condensing bytecode, comprising:

- *receiving said application in said target device in unconcentrated form.*
- *concentrating said application in said target device;*

(Fig. 1, 2 and the associated text, e.g., Col. 5: lines 20-22; "The bytecode to be condensed ***(unconcentrated application)*** may also be transmitted ***(received on)*** on-the-fly to the data processing system 40 ***(target device)***, which in turn **concentrates** the bytecode on-the-fly and re-transmits the condensed bytecode.", emphasis added.).

However, Ross does not explicitly teach:

- *installing said concentrated application in non-volatile memory of said target device.*

Henry discloses an improved executable file that contains the software materials necessary for the installation of a software product on a computer, wherein Henry discloses "The initial executable file is the **source of a compressed file** 66 and a shell program module. The compressed file 66 contained by the initial executable file is the source of multiple files 68a-j...", (emphasis added - See Col. 8: lines 28-34). Furthermore, Henry discloses "Initially the shell program module runs in the foreground and **extracts a compressed file** from the initial executable file. Thereafter, the shell program module **decompress** an executable file, such as a setup.exe file, from the compressed file. Thereafter, the shell program module causes a setup program module that originates from the **setup.exe file to be executed**", (emphasis added - See Col. 7: line 43-48). Moreover, Henry discloses "During and as a **result of execution of the setup program module**, a newly decompressed file, which may be referred to as the temporary product file 68d, is initially placed in the temporary directory 58, and the decompressing from the compressed file 66 is paused until that newly decompressed file is copied to the target directory 60 ***(non-volatile memory)***", (emphasis added – See Col. 9: lines 57-62).

Examiner noted that the setup.exe file is part of the compressed file and it would have been obvious to one having ordinary skill in the art at the time of the invention that in order to install a program, the setup.exe must be invoked.

It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Henry into the teachings of Ross because such combination would have provided an improved single executable file,

referred to as the initial executable file, that contains the software materials necessary for the installation of a software product on a computer, and that, once executed, searches for and uses only a small amount of temporary storage space in the process of getting the files of the software product in the target directory, causes the software product to be set up on the computer, and thereafter cleans-up the temporary storage space as suggested by Henry (See Col. 3: lines 23-30).

Regarding claim 2:

Ross and Henry disclose *the method of claim 1,*

- *wherein said concentrating and installing of said application are contemporaneously performed.*

(Ross discloses in Fig. 2 and the associated text, e.g., Col. 5: lines 24-25 and Col. 6: lines 36-37; "the bytecode 72 to be concentrated is **stored** in the **nonvolatile memory** 70" and "A segment within the volatile memory 65 may preferably be allocated for **performing the condensing operation**.", emphasis added.

On the other hand, Henry discloses in the associated text, e.g., Col. 9: lines 57-62 ; "During and as a **result of execution of the setup program module**, a newly decompressed file, which may be referred to as the temporary product file 68d, is initially placed in the temporary directory 58, and the decompressing from the compressed file 66 is paused until that newly decompressed file is copied to the target directory 60 ***(non-volatile memory)***", emphasis added.

Examiner noted that it would have been obvious to one having ordinary skill in the art at the time of the invention to use working space such as volatile memory to do the concentrating operation and install the application permanently in the non-volatile memory storage. Therefore, both operations are contemporaneously performed.).

Regarding claim 3:

Ross and Henry disclose *the method of claim 1, further comprising*

- *receiving said application via a network with which said target device is communicating.*

(Ross discloses in Fig. 2 and the associated text, e.g., Col. 5: lines 20-21; "The bytecode to be condensed ***(unconcentrated application)*** may also be transmitted on-the-fly ***(communicating)*** to the data processing system 40 ***(target device)***", emphasis added.).

Regarding claim 4:

Ross and Henry disclose *the method of claim 1, further comprising*

- *copying said application from non- volatile memory of said target device to volatile memory of said target device prior to said concentrating of said application.*

(Ross discloses in Fig. 2 and the associated text, e.g., Col. 5: lines 24-25 and Col. 6: lines 36-37; "the bytecode 72 to be concentrated is **stored** in the **nonvolatile memory** 70" and "A segment within the volatile memory 65 may preferably be allocated for **performing the condensing operation**.", emphasis added.

Examiner noted that it would have been obvious to one having ordinary skill in the art at the time of the invention to copy the unconcentrated application from non-volatile memory to a working space such as volatile memory to do the concentrating operation.).

Regarding claim 5:

Ross and Henry disclose *the method of claim 1, further comprising:*

- *copying said application from a non-volatile removable data storage device to volatile memory of said target device prior to said concentrating of said application.*

(Ross discloses in Fig. 2 and the associated text, e.g., Col. 4: lines 53-57, Col. 5: lines 24-25 and Col. 6: lines 36-37; "As illustrated in FIG. 2, a typical data processing system 40 includes a central processing unit (CPU) 50... **non-volatile memory 70 (such as disk drives, CD-ROMs, flash memory, or data tape**", "the bytecode 72 to be concentrated is **stored** in the **nonvolatile memory** 70" and "A segment within the volatile memory 65 may preferably be allocated for **performing the condensing operation**.", emphasis added.

Examiner noted that it would have been obvious to one having ordinary skill in the art at the time of the invention to copy the unconcentrated application from non-volatile memory to a working space such as volatile memory to do the concentrating operation.).

Regarding claim 8:

Ross and Henry disclose *the method of claim 1, further comprising*

- *executing said concentrated application prior to said step of installing.*

(Henry further discloses in the associated text, e.g., Col. 7: line 43-48 ; "Initially the shell program module runs in the foreground and **extracts a compressed file** from the initial executable file. Thereafter, the shell program module **decompress** an executable file, such as a setup.exe file, from the compressed file. Thereafter, the shell program module causes a setup program module that originates from the **setup.exe file to be executed**", emphasis added.

Examiner noted that the steps of extracting and executing the concentrated file happen prior to the step of executing the setup.exe file, which is the step of installing.).

Regarding claim 9:

This is another program version of the rejected claim 1 above, wherein all the limitations of this claim have been noted in the rejection of claim 1.

Regarding claim 10:

The rejection of base claim 9 is incorporated. All the limitations of this claim have been noted in the rejection of claim 2.

Regarding claim 11:

The rejection of base claim 9 is incorporated. All the limitations of this claim have been noted in the rejection of claim 3.

Regarding claim 12:

The rejection of base claim 9 is incorporated. All the limitations of this claim have been noted in the rejection of claim 4.

Regarding claim 13:

The rejection of base claim 9 is incorporated. All the limitations of this claim have been noted in the rejection of claim 5.

Regarding claim 15:

This is another system version of the rejected claim 1 above, wherein all the limitations of this claim have been noted in the rejection of claim 1.

Regarding claim 16:

The rejection of base claim 15 is incorporated. All the limitations of this claim have been noted in the rejection of claim 2.

Regarding claim 17:

The rejection of base claim 15 is incorporated. All the limitations of this claim have been noted in the rejection of claim 4.

Regarding claim 18:

The rejection of base claim 15 is incorporated. All the limitations of this claim have been noted in the rejection of claim 8.

Regarding claim 20:

Ross discloses a typical data processing system, *comprising:*

- *non-volatile memory;*

(FIG. 1, 2 and the associated text, e.g., Col. 4: lines 43-46 and Col. 4: lines 53-57; "Typical data processing systems which may be used include personal computers, work stations, palm computers, personal digital assistants (PDAs) or even mainframe computers" and "a typical data processing system 40 includes a central processing unit (CPU) 50. The CPU 50 is optionally connected via a bus 60 to, among other things, a volatile memory 65 (e.g., a RAM), **non-volatile memory** 70 (such as disk drives, CD-ROMs, flash memory, or data tape) ...", emphasis added.)

All other limitations of this claim have been noted in the rejection of claim 1.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 6, 7, 14, 19 and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ross (US Patent 6,163,780 – hereinafter, Ross) in view of Henry (US 6,131,192 – hereinafter, Henry) and further in view of Audio Video & Broadcasting Studio Systems (NDS and HP Integrate HP Microchaivm technology to provide a Java solution for Digital TV - published on Nov-Dec 2001 - hereinafter, Broadcast News).

Regarding claim 6:

Ross and Henry disclose *the method of claim 1,* but Ross and Henry do not explicitly teach:

- *wherein said installing of said application further comprises storing said application in concentrated form in a virtual machine data store.*

Broadcast News discloses in Col. 2: lines 5-11 and Col. 2 line 25 through Col. 3 line 6; "MicrochaiVM software allows us to do this by **minimizing the application size**..." and "MicrochaiVM software is designed to enable Java applications to be dynamically downloaded onto resource-constrained devices in bandwidth-restrained network environments. By using HP **Chaifreezedry patented software algorithms**, which is **part of HP's Microchai VM environment**, Java **application memory** requirements are **reduced** with no loss in application performance.", emphasis added.

Examiner noted that it would have been obvious to one having ordinary skill in the art at the time of the invention to store application in concentrated form in a virtual machine data store since Java virtual machine (JVM) is a virtual "execution engine" instance that executes the bytecodes in Java class files on a microprocessor.

It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Broadcast News into the teachings of Ross and Henry because such combination would have enabled Java and Web-based service capabilities in intelligent appliances such as set-top boxes, smart handhelds, mobile phones, automotive telematics systems, and printers as suggested by Broadcast News (See Col. 3 last paragraph through Col. 4: line 6).

Regarding claim 7:

Ross and Henry disclose *the method of claim 1,* but Ross and Henry do not explicitly teach:

- *executing said application in concentrated form with a virtual machine running on said target device.*

Broadcast News discloses in Col. 2 line 25 through Col. 3 line 6; "MicrochaiVM software is designed to enable Java applications to be dynamically downloaded onto resource-constrained devices in bandwidth-restrained network environments. By using HP **Chaifreezedry patented software algorithms**, which is **part of HP's Microchai VM environment**, Java **application memory** requirements are **reduced** with no loss in application performance.", emphasis added.

Examiner noted that it would have been obvious to one having ordinary skill in the art at the time of the invention to store application in concentrated form in a virtual machine data store since Java virtual machine (JVM) is a virtual "execution engine" instance that executes the bytecodes in Java class files on a microprocessor.

It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Broadcast News into the teachings of Ross and Henry because such combination would have enabled Java and Web-based service capabilities in intelligent appliances such as set-top boxes, smart handhelds, mobile phones, automotive telematics systems, and printers as suggested by Broadcast News (See Col. 3 last paragraph through Col. 4: line 6).

Regarding claim 14:

The rejection of base claim 9 is incorporated. All the limitations of this claim have been noted in the rejection of claim 6.

Regarding claim 19:

The rejection of base claim 15 is incorporated. All the limitations of this claim have been noted in the rejection of claim 7.

Regarding claim 21:

The rejection of base claim 20 is incorporated. All the limitations of this claim have been noted in the rejection of claim 7.

Regarding claim 22:

The rejection of base claim 20 is incorporated. All the limitations of this claim have been noted in the rejection of claim 6.

Regarding claim 23:

Ross and Henry disclose *the device of claim 22,* but Ross and Henry do not explicitly teach:

- *a plurality of concentrated applications stored in said virtual machine data store.*

Broadcast News discloses in Col. 2 line 25 through Col. 3 line 6; "MicrochaiVM software is designed to enable Java application**s** ***(plurality of application)*** to be dynamically downloaded onto resource-constrained devices in bandwidth-restrained network environments. By using HP **Chaifreezedry patented software algorithms**, which is **part of HP's Microchai VM environment**, Java **application memory** requirements are **reduced** with no loss in application performance.", emphasis added.

Examiner noted that it would have been obvious to one having ordinary skill in the art at the time of the invention to download a plurality of applications and store applications in concentrated form in a virtual machine data store since Java virtual machine (JVM) is a virtual "execution engine" instance that executes the bytecodes in Java class files on a microprocessor.

It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Broadcast News into the teachings of Ross and Henry because such combination would have enabled Java and Web-based service capabilities in intelligent appliances such as set-top boxes, smart handhelds, mobile phones, automotive telematics systems, and printers as suggested by Broadcast News (See Col. 3 last paragraph through Col. 4: line 6).

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh T. Bui whose telephone number is (571) 270-1976. The examiner can normally be reached on Mon. - Thur., 7:00AM - 3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Dam can be reached on (571) 272-3695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

_BH_

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SUPERVISORY PATENT EXAMINER